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## Patent Abstracts of Japan

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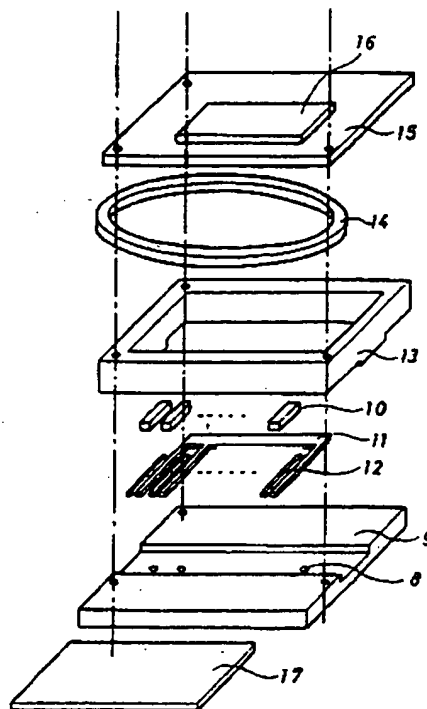
APPLICATION DATE : 26-10-87  
APPLICATION NUMBER : 62269585

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TITLE : INK-JET RECORDING APPARATUS



**ABSTRACT :** PURPOSE: To obtain a multi-nozzle head ink-jet recording apparatus free from corrosion and damages that would be caused by ink used and stress, respectively, even after a long period of time of printing by electrically and mechanically jointing at least mutually independent two metal plates to each of two electrodes provided on one side of a piezo-electric element which faces nozzle orifices.

**CONSTITUTION:** An ink-jet recording apparatus of the invention comprises a base 9 having a plurality of nozzle orifices 8 and stepped portions 5~50 $\mu$ m height and formed from an insulating material, a piezo-electric vibrator formed by jointing together three members such as a piezo-electric element 10 and 20~50 $\mu$ m thick metal plates 11, 12 serving as a common electrode and a split electrode, respectively, a ceramic member or a frame 13 formed of metal, an O ring serving as a seal from ink, a lid 15 formed of aluminum serving also as a heat buffer, a posistor 16 serving as a heating means and a FPC 17 for delivering split electric signals and common electric signals to the metal plates 11, 12, respectively. The FPC 17 and plates 11, 12 are jointed together outside ink.

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